

**REMARKS**

No new matter has been added. The Applicant again requests entry of the amendments as set forth hereto prior to examination of the application on the merits.

Respectfully submitted,



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Enclosures: Version of Specification with Markings to Show Changes Made  
Version of Claims with Markings to Show Changes Made

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**VERSION OF SPECIFICATION WITH MARKINGS TO SHOW CHANGES MADE**

[0011] According to the present invention, a solder jet apparatus is disclosed. The solder jet apparatus is a continuous mode solder jet that includes a blanking system and raster scan system. The use of the raster scan and blanking systems allows for a continuous stream of solder to be placed anywhere on the surface in any desired X-Y plane. This allows for greater accuracy as well as greater product throughput. Additionally, with the raster scan system, repairs to existing soldered surfaces can be quickly and easily performed using a map of the defects for directing the solder to the defects.

[0019] The second zone is a blanking zone that uses blanking electrodes or coil 30. The blanking electrodes are activated having sufficient electric field so as to cause droplets 14 to deflect to a catcher 32. This is the return function of the scanning function as is described below. Catcher 32 catches the liquid solder and causes the metal to be recycled to reservoir 16. This prevents droplets 14 from depositing on the surface of substrate 12. This blanking can be done in a selective manner so that droplets are deposited in some locations, but not others. Blanking electrodes or coil 30 are controlled by signal controller 34. Signal controller 34 can be a signal processor such as a computer system. The computer system allows greater control of droplets 14 by programming the electrodes or coil 30 to turn on and off in a desired sequence so as to pattern the substrate with a desired solder pattern. An alternative embodiment can include an air jet system if the electrical pulse is insufficient to remove the droplets. A photo cell can be located above the air jet system in order to [insure ]ensure proper timing of electrical pulses or the air pressure.

**VERSION OF CLAIMS WITH MARKINGS TO SHOW CHANGES MADE**

1. (Amended) A method for generating a continuous stream of liquid solder metal droplets for selective application to locations on a substrate comprising:  
producing a continuous stream of liquid solder metal droplets; and  
selectively directing said stream of liquid solder metal droplets in a first dimension and a second dimension, said selectively directing to said locations on said substrate comprising:  
raster scanning said stream of liquid solder metal droplets, said raster scanning including electrically charging said stream of liquid solder metal droplets; and  
deflecting said electrically charged stream of liquid solder metal droplets in said first dimension and said second dimension to said locations on said substrate; and  
blanking selectively said stream of liquid solder metal droplets to prevent a portion of said stream of liquid solder metal droplets from contacting said substrate.
2. (Amended) The method according to claim 1, wherein said producing step further comprises:  
heating a metal to a liquid state;  
controlling a temperature of said stream of liquid solder metal droplets in said liquid state to maintain said stream of liquid solder metal droplets in said liquid state.
3. (Amended) The method according to claim 1, wherein said producing step further comprises:  
inducing a pressure on a source of liquid metal; and  
vibrating said liquid metal to cause said stream of liquid solder metal droplets to be formed as said pressure is induced on said source of liquid[ solder] metal.

6. (Amended) The method according to claim 1, wherein said producing step further comprises forming said stream of liquid solder metal droplets having a substantially consistent diameter in the range of about 40 microns to about 300 microns.

7. (Amended) The method according to claim 1, wherein said blanking step comprises blanking when said stream of liquid solder metal droplets is positioned between an endpoint of a first line and a start point of a second line.